United States Air Force Academy Targets Net Zero Energy Goals With Solar

Challenge
As a Net Zero energy base, the United States Air Force Academy (USAFA) in Colorado Springs, CO, has a goal to meet 100 percent of the base’s electricity demands with renewable energy.

SunPower’s Solution
Collaborating with Colorado Springs Utilities and SunPower, the Academy installed a 6 MW DC solar project on 43 acres in April 2011. Nearly 19,000 panels with SunPower® T0 Trackers were installed, and the project was completed on schedule to strict military standards.

Customer Benefit
In Fiscal Year 2015, the third year of operation, the system generated 11.2 million kWh of net-metered power, reducing the USAFA annual utility bill by more than $650,000—well above the estimated annual savings of $500,000.

Quick Facts
- **6 MW DC on 43 Acres**
  Total System Size
- **$13.75 Million**
  Projected 25-Year Savings
- **9,500 Tons CO₂**
  Annual Emissions Offset
- **54,000 Cars**
  Removed from the Roads (30-Year Carbon Offset)
Tracking the Sun Helps USAFA System to Outperform

The goal to generate renewable energy for the base where economically feasible led the USAFA to pursue solar energy. Using $18.3 million from the American Reinvestment and Recovery Act of 2009, the USAFA worked in partnership with Colorado Springs Utilities to take the next step in implementing a solar power array.

Through a proposal process with 22 respondents, SunPower emerged as the partner most equipped to guide Colorado Springs Utilities and the USAFA. The company’s long-standing experience, record-breaking technology, and financial expertise were critical factors in its selection to build and install a superior solar project up to military standards.

Set on 41 acres, the solar array’s 18,888 panels on the ground near the Academy’s south entrance follow the sun as it moves using SunPower T0 tracker technology, increasing sunlight capture by up to 25 percent as compared to conventional fixed-tilt systems. During its first year of operation, 12.5 million kWh were produced by the solar array, enough to power nearly 1,200 homes with electricity per year. Original estimates anticipated that number to be only 11.6 million kWh.

Although this project resulted in a big step forward toward meeting renewable energy goals and reducing utility bills, the USAFA reaped additional educational benefits from the project. “Energy projects like this array cross operational and educational boundaries,” said Russell Hume, energy program manager with the USAFA. “We want to expose cadets to solar energy so they can take it forward in their Air Force careers.”

The on-going reduction in USAFA utility costs will allow those dollars to be re-focused on the mission—to educate, train and inspire the next generation of officers motivated to lead the US Air Force in serving the nation.

“SunPower’s team was creative, hardworking and available whenever we called. They were instrumental in helping us take the project from start to finish in about 18 months, which might be a record for a project with a utility and a federal customer.”

John Romero
General Manager, Colorado Springs Utilities

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